

1. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 6} \frac{\sqrt{5x - 14} - 4}{6x - 36}$$

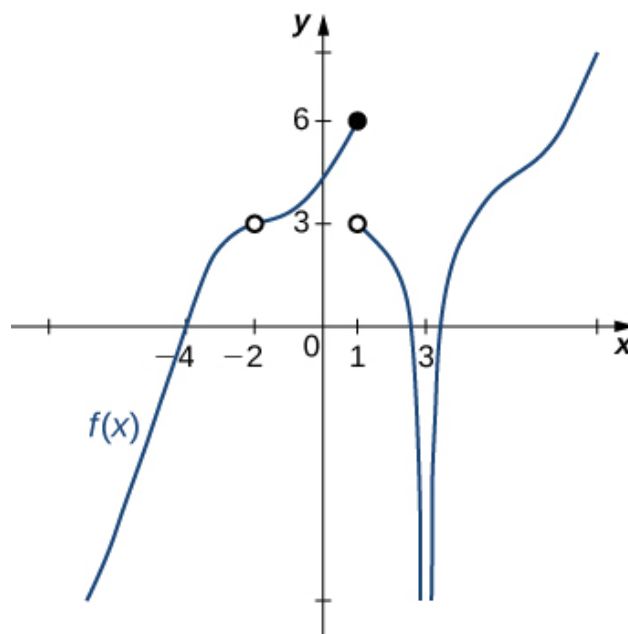
- A. 0.373
 - B. 0.125
 - C. ∞
 - D. 0.021
 - E. None of the above
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2. Based on the information below, which of the following statements is always true?

As x approaches 5, $f(x)$ approaches ∞ .

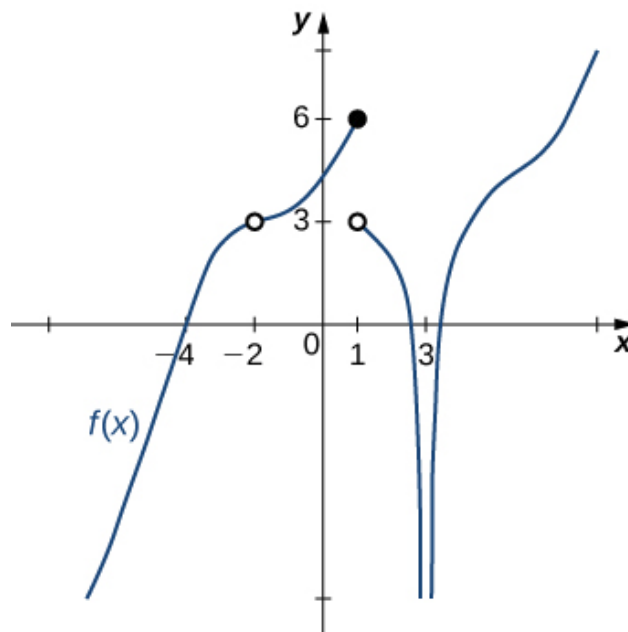
- A. $f(x)$ is undefined when x is close to or exactly 5.
 - B. $f(x)$ is close to or exactly ∞ when x is large enough.
 - C. $f(x)$ is close to or exactly 5 when x is large enough.
 - D. x is undefined when $f(x)$ is close to or exactly ∞ .
 - E. None of the above are always true.
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3. For the graph below, find the value(s) a that makes the statement true:
 $\lim_{x \rightarrow a} f(x)$ does not exist.



- A. 3
- B. -2
- C. 1
- D. Multiple a make the statement true.
- E. No a make the statement true.

4. For the graph below, evaluate the limit: $\lim_{x \rightarrow 3} f(x)$.



- A. -2
- B. 1
- C. $-\infty$
- D. The limit does not exist
- E. None of the above

5. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow -3^-} \frac{4}{(x+3)^7} + 3$$

- A. $f(-3)$
- B. ∞
- C. $-\infty$
- D. The limit does not exist
- E. None of the above

6. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow -3^+} \frac{4}{(x-3)^5} + 1$$

- A. $-\infty$
 - B. ∞
 - C. $f(-3)$
 - D. The limit does not exist
 - E. None of the above
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7. To estimate the one-sided limit of the function below as x approaches 4 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{4}{x} - 1}{x - 4}$$

- A. $\{3.9000, 3.9900, 4.0100, 4.1000\}$
 - B. $\{4.0000, 3.9000, 3.9900, 3.9990\}$
 - C. $\{4.0000, 4.1000, 4.0100, 4.0010\}$
 - D. $\{3.9000, 3.9900, 3.9990, 3.9999\}$
 - E. $\{4.1000, 4.0100, 4.0010, 4.0001\}$
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8. Based on the information below, which of the following statements is always true?

As x approaches ∞ , $f(x)$ approaches 6.955.

- A. x is undefined when $f(x)$ is large enough.
- B. $f(x)$ is close to or exactly 6.955 when x is large enough.
- C. $f(x)$ is close to or exactly ∞ when x is large enough.
- D. $f(x)$ is undefined when x is large enough.
- E. None of the above are always true.

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9. To estimate the one-sided limit of the function below as x approaches 2 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{2}{x} - 1}{x - 2}$$

- A. {2.1000, 2.0100, 2.0010, 2.0001}
- B. {1.9000, 1.9900, 2.0100, 2.1000}
- C. {1.9000, 1.9900, 1.9990, 1.9999}
- D. {2.0000, 1.9000, 1.9900, 1.9990}
- E. {2.0000, 2.1000, 2.0100, 2.0010}

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10. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 7} \frac{\sqrt{7x - 33} - 4}{6x - 42}$$

- A. 0.021
 - B. 0.125
 - C. ∞
 - D. 0.441
 - E. None of the above
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